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4 . (FILE 'HOME' ENTERED AT 13:26:12 ON 23 DEC 2003)

FILE 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI,  
BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT,  
CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DGENE,  
DRUGB, DRUGMONOG2, IMSDRUGNEWS, DRUGU, IMSRESEARCH, ...' ENTERED AT  
13:26:50 ON 23 DEC 2003

L1 64190 S MOTHER LIQUOR  
L2 1030 S L1 (L) (GLUTAMIC ACID)  
L3 31 S L2 (L) FERTILIZER  
L4 26 DUP REM L3 (5 DUPLICATES REMOVED)

- L4 ANSWER 1 OF 26 IFIPAT COPYRIGHT 2003 IFI on STN DUPLICATE 1  
TI ORGANIC NITROGEN-CONTAINING COMPOSITION AND FERTILIZER COMPRISING THE SAME
- L4 ANSWER 2 OF 26 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability; amino acid preparation by bacterium fermentation for fertilizer manufacture
- L4 ANSWER 3 OF 26 USPATFULL on STN DUPLICATE 3  
TI Process for producing an amino acid-N, N-diacetic acid and its salts
- L4 ANSWER 4 OF 26 USPATFULL on STN  
TI Methods for producing sialyloligosaccharides in a dairy source
- L4 ANSWER 5 OF 26 USPATFULL on STN  
TI Process for producing an amino acid-N,N-diacetic acid and its salts
- L4 ANSWER 6 OF 26 USPATFULL on STN  
TI Methods for producing sialyloligosaccharides in a dairy source
- L4 ANSWER 7 OF 26 USPATFULL on STN  
TI Process for producing glutamic acid
- L4 ANSWER 8 OF 26 USPATFULL on STN  
TI Process for the production of crystalline aspartic acid
- L4 ANSWER 9 OF 26 USPATFULL on STN  
TI Process for the preparation of monosodium glutamate
- L4 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 4  
TI Comprehensive utilization and control method for glutamic acid isoelectric mother liquor in production of gourmet powder
- L4 ANSWER 11 OF 26 WPIDS COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Method for extracting glutamic acid from fermentation liquor comprises removing bacteria from mother liquor, concentrating, desalinating, hydrolyzing and crystallizing.
- L4 ANSWER 12 OF 26 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN  
TI Extraction of glutamic acid from culture medium; purification from fermentation broth by cation-exchange chromatography and crystallization, and utilization of waste as a fertilizer
- L4 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 5  
TI Comprehensive utilization of wastewater from monosodium glutamate plant
- L4 ANSWER 14 OF 26 USPATFULL on STN  
TI Degradation product of total protein
- L4 ANSWER 15 OF 26 CABA COPYRIGHT 2003 CABI on STN  
TI [Process for preparation of glutamic acid in the crystalline state, preferably in the form of its sodium salt or MSG; glutamic acid, MSG, salts and organic concentrate obtained by this process].  
Procédé de préparation d'acide glutamique à l'état cristallin de préférence sous forme de son sel sodique ou MSG; acide glutamique, MSG, sels et concentrat organique obtenus par ce procédé.
- L4 ANSWER 16 OF 26 USPATFULL on STN  
TI Process for the recovery of chemicals from the shells of crustacea
- L4 ANSWER 17 OF 26 USPATFULL on STN  
TI Extraction of fertilizer salts and organic substances of high nutritive value from industrial waste waters

L4 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Recovery of glutamic acid and other values from Steffen waste water

L4 ANSWER 19 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 20 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 21 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 22 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 23 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 24 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 25 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

L4 ANSWER 26 OF 26 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN  
TI Organic nitrogen-containing composition having fermentation mother liquor obtained by culturing micro-organism having L-glutamic acid-producing ability -

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4 (FILE 'HOME' ENTERED AT 13:12:16 ON 23 DEC 2003)

FILE 'HCAPLUS' ENTERED AT 13:12:24 ON 23 DEC 2003

L1 29674 S MOTHER LIQUOR  
L2 67 S L1 (L) NITROGEN  
L3 5 S L2 (L) GLUTAMIC ACID

=> d ibib ab 1-5

L3<sup>4</sup> ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:862717 HCAPLUS  
TITLE: Veterinary preparation  
INVENTOR(S): Gusev, K. K.  
PATENT ASSIGNEE(S): Russia  
SOURCE: Russ., No pp. given  
CODEN: RUXXE7

DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2214253	C2	20031020	RU 2001-105595	20010227

PRIORITY APPLN. INFO.: RU 2001-105595 20010227

AB FIELD: veterinary science. SUBSTANCE: the suggested prepn. is obtained due to peat processing with sodium alkali and contains the following ratio of revealed ingredients, mg/l **mother liquor**: crude protein 8500.0; total lipids 5400.0; potassium 12400.0; sodium 500.0; calcium 59.5; ferrum 12.5; copper 0.008; zinc 0.19; cobalt 0.02; cadmium 0.008; manganese 0.43; ammonium **nitrogen** 20.7; nitrates 0.02; total phosphorus against PO 1611.0; vitamin C 16.75; triglycerides 1590.0; amylase 12000.0-13000.0; sodium humate 4.8; humic acids 3.6; iodine 0.12; lysine 20.0; histidine 10.0; aspartic acid 10.0; threonine 10.0; serine 5.0; **glutamic acid** 20.0; proline 10.0; leucine 10.0; glycine 2.0; valine 3.0; methionine 0.1; isoleucine 4.0; tyrosine 10.0; phenylalanine 20.0; alanine 2.0. The suggested veterinary prepn. is of high biol. activity and enables to increase quantity of unconventional sources of raw material used for veterinary purposes. EFFECT: higher efficiency. 1 tbl.

L3 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:634344 HCAPLUS  
DOCUMENT NUMBER: 137:153947  
TITLE: Use of spent glutamic acid fermentation broth as a nitrogen fertilizer  
INVENTOR(S): Koda, Takayuki; Sato, Kazuhiro  
PATENT ASSIGNEE(S): Ajinomoto Co., Ltd., Japan  
SOURCE: Eur. Pat. Appl., 30 pp.  
CODEN: EPXXDW

DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1233071	A2	20020821	EP 2002-3831	20020220
EP 1233071	A3	20020918		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2002249390	A2	20020906	JP 2001-44137	20010220
BR 2002000489	A	20021001	BR 2002-489	20020219
AU 2002016799	A5	20020822	AU 2002-16799	20020220
CN 1377971	A	20021106	CN 2002-108034	20020220
US 2003172698	A1	20030918	US 2002-77745	20020220

PRIORITY APPLN. INFO.: JP 2001-44137 A 20010220

AB An org. **nitrogen**-contg. compn. comprising fermn. **mother liquor** obtained by culturing a microorganism having L-**glutamic acid**-producing ability in a liq. medium of which pH is adjusted to a condition under which L-**glutamic acid** is allowed to be pptd., to allow L-**glutamic acid** to be produced and accumulated with pptn. of L-**glutamic acid** accompanied, and then sepg. L-**glutamic acid** from the medium. Thus, the spent fermn. broth from Enterobacter agglomerans **glutamic acid**

fermn. after the pptn. of the **glutamic acid** was shown  
to contain 13.1-16.2% **nitrogen**.

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L3 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2001:457428 HCAPLUS  
DOCUMENT NUMBER: 135:210281  
TITLE: Practical use of L-glutamic acid mother liquor as feed  
additive  
AUTHOR(S): Yoshimura, Minoru  
CORPORATE SOURCE: Research Institute for Life Environmental Science,  
Miyagi Gakuin Women's University, Japan  
SOURCE: Seikatsu Kankyo Kagaku Kenkyusho Kenkyu Hokoku (Miyagi  
Gakuin Joshi Daigaku) (2001), Volume Date 2000, 33,  
7-17  
CODEN: SKKKGG; ISSN: 1346-6534  
PUBLISHER: Miyagi Gakuin Joshi Daigaku Seikatsu Kankyo Kagaku  
Kenkyusho  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The practical use of L-glutamic acid mother  
liquor as a livestock feed additive was studied. The  
mother liquor was fermented from hydrolyzed cassava  
starch and monosodium glutamate was removed. The mother  
liquor was then concd., which caused dissolved L-glutamic  
acid to crystallize, giving a second mother  
liquor. This mother liquor was concd. again,  
and 50-90% of minerals dissolved in it were removed. The chem. properties  
of the remaining mother liquor and the possibility of  
its use as a livestock feed additive were studied. The LD for 50% of test  
mice was 36 g/kg of body wt. in the test of acute toxicity. Result of a  
subacute toxicity test in rats suggested the safety of the additive.  
Digestible crude protein and total digestible nutrients for cattle  
accounted for 16.8% and 30.4%, resp. The addn. for the mother  
liquor to ground cassava chips increases protein contents and the  
most suitable mixed ratio of the mother liquor to  
ground cassava chips for feed intake of cattle was 1:3.5. This level was  
introduced to substitute maize in level of 0, 50, 75 and 100%, in the  
conc. feeds for fattening cattle. Feed intake, daily body wt. gain, the  
feed conversion rate, and carcass yield were supreme in 50% substitute of  
maize. In this level of substitute of maize, protein intake was equal to  
maize and salt intake was kept at low level. The addn. of the  
mother liquor feed additive to feed for growing swine  
improved the feed intake, the daily body wt. gain, and the feed conversion  
rate. Digestibility of crude protein, crude fat, and crude fiber were  
increased when the feed contained a lysine supplement and the  
mother liquor feed additive. The urinary  
nitrogen excretion of pigs given a lysine supplement in the feed  
with the mother liquor feed additive was less than  
that of pigs not given a lysine supplement. It was concluded the  
efficiency of use of proteins in the mother liquor was  
improved by the addn. of lysine.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 1995:439307 HCAPLUS  
DOCUMENT NUMBER: 122:212772  
TITLE: Manufacture of feeds from glutamic acid fermented  
mother liquor. III. Practical use of L-glutamic acid  
mother liquor as a feed additive  
AUTHOR(S): Yoshimura, Minoru; Kawakita, Tetsuya; Wanchai,  
Chaitas; Sommaneeewan, Chanin  
CORPORATE SOURCE: Technol. Eng. Lab., Ajinomoto Co., Inc, Kawasaki, 210,  
Japan  
SOURCE: Nippon Nogei Kagaku Kaishi (1995), 69(3), 347-56  
CODEN: NNKKAA; ISSN: 0002-1407  
DOCUMENT TYPE: Journal  
LANGUAGE: Japanese

AB At water activity of 0.81, mold did not grow in the feed additive during

long-term storage under either aerobic or anaerobic conditions. Results of a subacute toxicity test in rats suggested the safety of the additive. The addn. of the mother liquor feed additive to feed for growing swine improved the feed intake, the daily body wt. gain, and the feed conversion rate. Digestibility of crude protein, crude fat, and crude fiber was increased when the feed contained a Lys supplement and the mother liquor feed additive. The urinary N excretion of pigs given a lysine supplement in the feed with the mother liquor feed additive was less than that of pigs not given a lysine supplement with or without the mother liquor. It means that the efficiency of use of proteins in the mother liquor was improved by the addn. of Lys.

L3 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1970:109827 HCAPLUS  
DOCUMENT NUMBER: 72:109827  
TITLE: Crystallizing L-glutamic acid  
INVENTOR(S): Sakata, Yoshiki; Nishikiori Masato; Ono, Hideshi  
PATENT ASSIGNEE(S): Ajinomoto Co., Inc.  
SOURCE: Brit., 7 pp.  
CODEN: BRXXAA  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1178605		19700121	GB	19670316

AB L-Glutamic acid (I) is crystd. in the .alpha. form by mixing a I-inorg. acid salt soln. or a I-alkali salt soln. with crude crystals or a slurry contg. in suspension such crystals obtained from fermentation broth or protein hydrolyzate. The slurry contains org. N compds. other than I so that the resulting mixt. has an ON to GN wt. ratio >0.02. (ON is the **nitrogen** content of org. **nitrogen** compds. other than I, while GN indicates that of I). The pH is adjusted to the isoelec. point of I and the resulting .alpha.-form crystals are filtered off. Thus, 668 g of I-HCl crystals (ON/GN wt. ratio: 0.20) were added at 60.degree. to 2 l. of a concd. I fermentation broth contg. bacterial cells and 23.5 g of I/dl, whereby the ON to GN ratio of the mixt. was 0.21:1 and .alpha.-form I crystals were partially crystd.; 130 ml of 35% HCl was added to bring the pH to the I isoelec. point. The mixt. was cooled to room temp. and the upper layer of **mother liquor** with bacterial cells in suspension was decanted after the crystals had settled. The lower I slurry was filtered to give 630 g (90%) of .alpha. form I crystals which were 98% pure.